



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

**MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION**

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786)315-2590 F (786) 31525-99

www.miamidade.gov/economy

Siplast

**1111 Highway 67 South
Arkadelphia, AR 71923**

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Siplast Modified Bitumen Roof Systems over Steel Decks.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews and revises NOA No. 09-0901.14 consists of pages 1 through 22.

The submitted documentation was reviewed by Jorge L. Acebo.



NOA No.: 12-1220.05
Expiration Date: 04/14/18
Approval Date: 04/11/13
Page 1 of 22

ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Modified Bitumen
Deck Type: Steel
Material: SBS
Maximum Design Pressure: -150 psf

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Parabase	3' x 108'	ASTM D4601	Asphalt coated fiberglass base sheet for mechanically fastened applications.
Parabase FS	3' x 108'	ASTM D4601	Asphalt coated fiberglass base sheet with a polyolefin back surfacing for mechanically fastened applications.
Parabase Plus	3.28' x 102.3'; 28 lbs./sq.	ASTM D4601	Elastomeric asphalt coated base sheet.
Paradiene 20	3.28' x 50'; 90 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with random fiberglass mat reinforcement used as the base ply of a Paradiene 20/30 system.
Paradiene 20 HT	3.28' x 50'; 90 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply of a Paradiene 20/30 system.
Paradiene 20 EG	3.28' x 33.5'; 90 lbs./sq.	ASTM D6163	Heavy duty asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply in Paradiene systems.
Paradiene 20 HV	3.28' x 33.5'; 90 lbs./sq.	ASTM D6163	Heavy duty asphalt elastomer sheet with random fiberglass mat reinforcement used as a base ply of a Paradiene 20/30 system.
Paradiene 20 PR	3.28' x 50'; 55 lbs./sq.	ASTM D6164	Asphalt elastomer sheet with polyester fiberglass scrim composite reinforcement used as the top ply of a Paradiene 20/20 PR system having a gravel surfacing. Has additional puncture resistance.
Paradiene 20 TG	3.28' x 33.5'; 70 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with random fiberglass reinforcement used as the base ply of a Paradiene 20/30 TG Series system.
Paradiene 20 TG F	3.28' x 33.5'; 70 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with random fiberglass reinforcement used as the base ply of a Paradiene 20/30 TG Series system.
Paradiene 20 HT TG	3.28' x 33.5'; 70 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply of a Paradiene 20/30 system.



NOA No.: 12-1220.05
 Expiration Date: 04/14/18
 Approval Date: 04/11/13
 Page 2 of 22

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Paradiene 20 EG TG	3.28' x 33.5'; 100 lbs./sq.	ASTM D6163	Heavy duty asphalt elastomer sheet with fiberglass scrim reinforced for use as a base ply in Paradiene 20TG/30TG systems.
Paradiene 20 HV TG	3.28' x 33.5'; 100 lbs./sq.	ASTM D6163	Heavy duty asphalt elastomer sheet with random fiberglass mat reinforcement used as a base ply of a Paradiene 20TG/30TG system.
Paradiene 20 PR TG	3.28' x 33.5'; 96 lbs./sq.	ASTM D6164	High performance SBS modified bitumen finish ply designed for use in gravel surfaced. Used as a surface ply of a Paradiene 20/20TG system.
Paradiene 20 TS	3.28' x 33.5'; 76 lbs./sq.	ASTM D6163	High performance, semi adhered SBS modified bitumen with random fiberglass mat reinforcement used as a base ply of Paradiene 20/30 systems.
Paradiene 30 FR Paradiene 30 CR FR	3.28' x 33.5'; 85 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with mineral surfacing and random glass mat reinforcement, for use as the top ply of a Paradiene 20/30 system.
Paradiene 30 HT FR	3.28' x 33.5'; 87 lbs./sq.	ASTM D6163	Fire-rated asphalt elastomer sheet with mineral surfacing and fiberglass scrim reinforcement for use as the top ply of a Paradiene 20/30 FR system.
Paradiene 30 MW FR	3.28' x 33.5'; 87 lbs./sq.	ASTM D6163	Fire rated asphalt elastomer sheet with mineral surfacing and ultra high tensile fiberglass reinforcement for use as the top ply of a Paradiene 20/30 FR system.
Paradiene 30 FR TG Paradiene 30 CR FR TG	3.28' x 25.25'; 80 lbs./sq.	ASTM D6163	Fire rated asphalt elastomer sheet with mineral surfacing and random fiberglass mat reinforcement for use as the top ply sheet of a Paradiene 20/30 TG Series system.
Paradiene 30 HT FR TG	3.28' x 25.25'; 80 lbs./sq.	ASTM D6163	Fire rated asphalt elastomer sheet with mineral surfacing and fiberglass scrim reinforcement for use as the top ply of a Paradiene TG Series system.
Paradiene 40 FR	3.28' x 26'; 115 lbs./sq.	ASTM D6163	Fire rated asphalt elastomer sheet with mineral surfacing, glass mat/glass scrim reinforced.
Paradiene 40 FR TG	3.28' x 26'; 115 lbs./sq.	ASTM D6163	Fire rated asphalt elastomer sheet with mineral surfacing, glass mat/glass scrim reinforced.
Parafor 50 LT	3.28' x 17.5'; 114 lbs./sq.	ASTM D6164	Heavy duty asphalt elastomer sheet with mineral surfacing, polyester mat scrim reinforced.

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Parafor 50 TG	3.28' x 17.5'; 114 lbs./sq.	ASTM D6164	Heavy duty asphalt elastomer sheet with mineral surfacing, polyester mat scrim reinforced.
IRES 40	3.28' x 34'; 89 lbs./sq.	ASTM D6163	High-melt asphalt sheet with random fiberglass mat reinforcement for use as the base ply sheet for a Veral system.
IRES HT	3.28' x 34'; 89 lbs./sq.	ASTM D6163	High-melt asphalt sheet with fiberglass scrim reinforcement for use as a base ply sheet for the Veral system.
Veral Aluminum	3.28' x 33.5'; 90 lbs./sq.	ASTM D6298	Aluminum clad asphalt elastomer sheet with woven fiberglass reinforcement for use as the top ply sheet of a Veral system.
Veral Copper	3.28' x 33.5'; 105 lbs./sq.	ASTM D6298	Copper clad asphalt elastomer sheet with fiberglass scrim reinforcement for use as the top ply of a Veral system.
PA 100 Mopping Asphalt		ASTM D312 Type IV	Mopping Asphalt
PA 311/ 311 M/ 311 LS Adhesives	5 or 55 gal.	ASTM D4479	Blend of adhesive asphalts and quick-drying solvents.
PA 828 Flashing Cement	5 gal.	ASTM D4586	Flashing Cement
PA 1021 Plastic Cement	5 gal.	ASTM D4586	Asphalt cutback reinforced general purpose cement with non-asbestos fibers.
PA 1125 Asphalt Primer	5 or 55 gal.	ASTM D41	Asphalt primer.
PC – 227	5 or 55 gal	ASTM D6083	Elastomeric roof coating.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Paratherm W, Paratherm H	Polyisocyanurate Insulation	Siplast
ACFoam II	Polyisocyanurate Insulation	Atlas Roofing Corp.
High Density Wood Fiberboard	High Density Wood Fiber insulation board.	Generic
Perlite Insulation Board	Perlite Insulation	Generic
DensDeck, DensDeck Prime	Water resistant gypsum	Georgia-Pacific Gypsum LLC
Georgia Pacific High Density Roof Fiberboard	High Density Wood Fiber insulation board.	Georgia-Pacific Wood Products, LLC
H-Shield	Polyisocyanurate foam insulation	Hunter Panels, LLC
ENRGY 3	Polyisocyanurate Insulation.	Johns Manville
DuraBoard	High-density Perlite roof insulation.	Johns Manville
SECUROCK Gypsum-Fiber Roof Board	Water resistant recycled cellulose and synthetic gypsum	US Gypsum Corporation



APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Dekfast Fasteners #12, #14 & #15	Insulation fastener for wood, steel and concrete decks		SFS Intec
2.	Dekfast Hex Plate	Galvalume hex stress plate.	2 7/8" x 3 1/4"	SFS Intec
3.	Dekfast Lock Plate	Polypropylene locking plate.	3" x 3 1/4"	SFS Intec
4.	#12, #15 Roofgrip Fasteners	Insulation fastener for wood and steel.		OMG
5.	Metal Plate	Galvalume stress plate.	3" round 3" square	OMG
6.	Gearlok Plastic Plate	Polypropylene round plate	3.2"	OMG
7.	Olympic Fastener #12 & #14	Insulation fastener		OMG
8.	Olympic Polypropylene	Polypropylene plastic plate	3.25" round	OMG
9.	Olympic Standard	3" round galvalume AZ50 steel plate	3" round	OMG
10.	Olympic G-2	3.5" round galvalume AZ55 steel plate	3.5" round	OMG
11.	System ES	Preassembled plate/screw unit for fastening insulation		SFS Intec
12.	Parafast Roofing Fasteners	Insulation fastener for steel and wood decks		Siplast
13.	Parafast 3" Metal Plates	Galvalume coated steel plates.	3" round	Siplast
14.	Parafast 125 Tri Rib Plates	Galvalume coated steel plates	3" round	Siplast
15.	Parafast PA	Pre Assembled 3" plate/#12 screw unit for fastening insulation		Siplast
16.	Olympic XHD	#15 Screws		OMG
17.	Olympic Super XHD	2-3/4" Super XHD barded stress Plate		OMG
18.	Olympic	3" ribbed galvalume plates		OMG
19.	Parafast XHD Roofing Fasteners	Insulation Fastener for Steel and Wood Decks		Siplast

EVIDENCE SUBMITTED

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
Factory Mutual Research Corp.	FM 4470	J.I. 2Y1A1.AM	04/15/96
	FM 4470	J.I. 3Z3A7.AM	04/12/96
	FM 4470	3009110	06/04/01
	FM 4470	3011494	08/22/01
	FM 4470	3015680	11/24/03
	FM 4470	3023079	05/12/06
	FM 4470	3018923	12/12/05
	FM 4470	3023545	12/10/06
	FM 4470	3026653	05/24/06
	FM 4470	3031655	05/27/08
	FM 4470	3033854	01/16/09
Underwriters Laboratories, Inc.	UL 790	R10630	03/11/13
Trinity-ERD	TAS 114	#4701.02.96-1	02/28/96
	TAS114	#4701.09.96-1	08/22/96
	TAS 117	C8500SC.11.07	11/30/07
PRI Construction Materials Technologies LLC	ASTM D6163	SRI-037-02-01	11/15/12
	ASTM D6163	SRI-039-02-01	11/20/12
	ASTM D6164	SRI-041-02-01	11/15/12
	ASTM D6163	SRI-042-02-01	11/16/12
	ASTM D6163	SRI-042-02-02	11/18/12
	ASTM D5147/D6163	SRI-043-02-01	11/15/12
	ASTM D5147/D6164	SRI-044-02-01	12/07/12
	ASTM D5147/D6163	SRI-045-02-01	12/10/12
	ASTM D5147/D6163	SRI-045-02-03	11/18/12
	ASTM D5147/D6163	SRI-046-02-01	11/16/12
	ASTM D6164	SRI-047-02-01	12/07/12
	ASTM D6298	SRI-048-02-01	01/11/13
	ASTM D4601	SRI-049-02-01	11/13/12
	ASTM D4601	SRI-050-02-01	11/12/12
	ASTM D4601	SRI-051-02-01	11/12/12



APPROVED ASSEMBLIES

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type B(1): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
Paratherm W, ENRGY 3, AC Foam II, H-Shield Minimum 1.3" thick	1 or 4	1:3 ft. ²
Approved Perlite Minimum ¾" thick	1 or 4	1:2 ft. ²

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
Approved Perlite Minimum ¾" thick	N/A	N/A
Approved High Density Wood Fiberboard Minimum ½" thick	N/A	N/A

Note: Apply top layer of insulation in a full mopping of any approved mopping asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as Base Layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: (Optional) Paraglas; one or more plies adhered to the insulation with approved mopping asphalt at an application rate of 20-25 lbs./sq.

Ply Sheet: Paradiene 20 TG, 20 TG F, 20 HV TG, 20 HT TG or 20 EG TG adhered by torch or Paradiene 20, 20 HT, 20 HV or 20 EG adhered with approved mopping asphalt at an application rate of 20-40 lbs./sq. or with PA 311 adhesive at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 20 PR, 30 FR, 30 CR FR, 30 MW FR or 30 HT FR adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq. or with PA 311 adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 PR TG, Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG or Parafor 50 TG adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -52 psf (See General Limitation #9)



Membrane Type: SBS Foil
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type B(2): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft²
Paratherm W, ENRGY 3, AC Foam II, H-Shield Minimum 1.3" thick	1 or 4	1:3 ft.²
Approved Perlite Minimum ¾" thick	1 or 4	1:2 ft.²

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft²
Approved Perlite Minimum ¾" thick	N/A	N/A
Approved High Density Wood Fiberboard Minimum ½" thick	N/A	N/A

Note: Apply top layer of insulation in a full mopping of any approved mopping asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as Base Layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: (Optional) Paraglas; one or more plies adhered to the insulation with approved mopping asphalt at an application rate of 20-25 lbs./sq.

Ply Sheet: IREX 40, IREX HT, Paradiene 20, 20 HT, 20 HV or 20 EG adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq. or IREX 40, IREX HT, Paradiene 20 TG, 20 TG F, 20 HV TG, 20 HT TG or 20 EG TG applied by torch.

Membrane: Veral Aluminum or Veral Copper adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq. or by torch.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -52 psf (See General Limitation #9)



Membrane Type: SBS/SBS Foil
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type B(3): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.
Deck: Minimum 22 ga., steel decking meeting ASTM Designation A 1008 SS Grade 80 or A653 SS Grade 80 attached to minimum ¼" steel supports spaced 6 ft. o.c. with ITW Buildex Traxx 5 fasteners (at the bottom flute), and deck side laps attached with Buildex Traxx 1 fasteners spaced at max. of 24" o.c.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
AC Foam II, Paratherm, H-Shield Minimum 1.5" thick	15	1:1.33ft. ²

Note: Apply top layer of insulation in a full mopping of any approved mopping asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as Base Layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
Georgia Pacific High Density Roof Fiberboard Minimum ½" thick	N/A	N/A

Ply Sheet: Paradiene 20, adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq.

Membrane: Paradiene 30 FR, 30 CR FR, 30 HT FR, Paradiene 40 FR or Parafor 50 LT in approved mopping asphalt at an application rate of 20-25 lbs./sq. or PA-311 cold adhesive applied at a rate of 1.5 gal/sq. or Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG, Parafor 50 TG, Veral Aluminum or Veral Copper adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:
1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -67.5 (See General Limitation #7)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C(1): All layers of insulation simultaneously attached.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft²
Paratherm W, ENRGY 3, ACFoam II, H-Shield Minimum 1.3" thick	N/A	N/A
Approved Perlite, DuraBoard Minimum ¾" thick	N/A	N/A
Approved High Density Wood Fiberboard Minimum ½" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft²
Approved Perlite Minimum ¾" thick	1 or 4	1:2 ft.²
Approved High Density Wood Fiberboard Minimum ½" thick	1 or 7	1:4 ft.²

Base Sheet: (Optional) One or more plies of Paraglas adhered to the insulation with approved mopping asphalt at an application rate of 20-25 lbs./sq.

Ply Sheet: Paradiene 20 TG, 20 TG F, 20 HV TG, 20 HT TG, 20 EG TG adhered by torch; Paradiene 20, 20 HT, 20 HV, 20 EG adhered with approved mopping asphalt at an application rate of 20-25 lbs./sq. or with PA 311 adhesive at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 20 PR, 30 FR, 30 CR FR, 30 MW FR or 30 HT FR adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq. or with PA 311 adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 PR TG, Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG or Parafor 50 TG adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

- 1.400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
- 2.400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -52 psf (See General Limitation #9)



Membrane Type: SBS Foil

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C(2): All layers of insulation simultaneously attached.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
Paratherm, ENRGY 3, AC Foam II, H-Shield Minimum 1.3" thick	N/A	N/A
Approved Perlite Minimum ¾" thick	N/A	N/A
Approved High Density Wood Fiberboard Minimum ½" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
Approved Perlite, DuraBoard Minimum ¾" thick	1 or 4	1:2 ft. ²
Approved High Density Wood Fiberboard Minimum ½" thick	1	1:4 ft. ²

Base Sheet: (Optional) Paraglas; one or more plies adhered to the insulation with approved mopping asphalt at an application rate of 20-25 lbs./sq.

Ply Sheet: IREX 40, IREX HT, Paradiene 20, 20 HT, 20 HV or 20 EG adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq. or IREX 40, IREX HT, Paradiene 20 TG, 20 TG F, 20 HV TG, 20 HT TG or 20 EGTG adhered by torch.

Membrane: Veral Aluminum or Veral Copper adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq. or by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.

2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -52 psf (See General Limitation #9)



Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C(3): All layers of insulation mechanically fastened to roof deck. Membrane is subsequently fully adhered to the roof insulation.

Deck: Minimum 22 ga., Type B Grade E steel decking attached to steel supports spaced 6 ft. o.c. 5/8 puddle welds and washers fasteners spaced 6" o.c. (at the bottom flute), and with side laps attached with Buildex Tek's 1 fasteners spaced at max. of 30" o.c.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
Any approved Polyisocyanurate Minimum 1.5" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
DensDeck Minimum 5/8" thick	4(#15), 9(#14),	1:1.6 ft. ²

Base Sheet: (Optional) Paraglas; one or more plies adhered to the insulation with approved mopping asphalt at an application rate of 20-25 lbs./sq.

Ply Sheet: Paradiene 20 TG, 20 TG F, 20 HV TG, 20 HT TG, 20 EG TG adhered by torch; Paradiene 20, 20 HT, 20 HV or 20 EG adhered with approved mopping asphalt at an application rate of 20-25 lbs./sq.

Membrane: Paradiene 30 FR, 30 CR FR, 30 MW FR or 30 HT FR adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq.; Paradiene 20 PR TG, Paradiene 30 FR TG, 30 CR FR TG or 30 HT FR TG adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

- 1.400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
- 2.400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -60 psf (See General Limitation #7)



Membrane Type: SBS Foil

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C(4): All layers of insulation mechanically fastened to roof deck. Membrane is subsequently fully adhered to the roof insulation.

Deck: Minimum 22 ga., Type B Grade E steel decking attached to steel supports spaced 6 ft. o.c. 5/8 puddle welds and washers fasteners spaced 6" o.c. (at the bottom flute), and with side laps attached with Buildex Tek 1 fasteners spaced at max. of 30" o.c.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
Any approved Polyisocyanurate Minimum 1.5" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
DensDeck Minimum 5/8" thick	4(#15), 9(#14),	1:1.6 ft. ²

Base Sheet: (Optional) Paraglas; one or more plies adhered to the insulation with approved mopping asphalt at an application rate of 20-25 lbs./sq.

Ply Sheet: IREX 40, IREX HT, Paradiene 20, 20 HT, 20 HV or 20 EG adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq. or IREX 40, IREX HT, Paradiene 20 TG, 20 TG F, 20 HV TG, 20 HT TG or 20 EG TG adhered by torch.

Membrane: Veral Aluminum or Veral Copper adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq. or by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

- 1.400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
- 2.400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -60 psf (See General Limitation #7)



Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C(5): All layers of insulation mechanically fastened to roof deck. Membrane is subsequently fully adhered to the roof insulation.

Deck: Minimum 22 ga., Type B steel decking attached to steel supports spaced 6 ft. o.c. Buildex Traxx 5 fasteners spaced 6" o.c. (at the bottom flute), and with side laps attached with Buildex Traxx 1 fasteners spaced at max. of 24" o.c.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
Any approved Polyisocyanurate Minimum 1.5" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
DensDeck Prime Minimum ½" thick	7 or 12	1:1.6 ft. ²

Base Sheet: (Optional) Paraglas; one or more plies adhered to the insulation with approved mopping asphalt at an application rate of 20-25 lbs./sq.

Ply Sheet: Paradiene 20 TG, 20 TG F, 20 HV TG, 20 HT TG or 20 EG TG adhered by torch or Paradiene 20, 20 HT, 20 HV or 20 EG adhered with approved mopping asphalt at an application rate of 20-25 lbs./sq.

Membrane: Paradiene 30 FR, 30 CR FR, 30 MW FR or 30 HT FR adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq.; Paradiene 20 PR TG, Paradiene 30 FR TG, 30 CR FR TG or 30 HT FR TG adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

- 1.400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
- 2.400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -67.5 psf (See General Limitation #7)



Membrane Type: SBS Foil

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C(6): All layers of insulation mechanically fastened to roof deck. Membrane is subsequently fully adhered to the roof insulation.

Deck: Minimum 22 ga., Type B steel decking attached to steel supports spaced 6 ft. o.c. Buildex Traxx 5 fasteners spaced 6" o.c. (at the bottom flute), and with side laps attached with Buildex Traxx 1 fasteners spaced at max. of 24" o.c.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
Any approved Polyisocyanurate Minimum 1.5" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
DensDeck Prime Minimum ½" thick	12,14 or 15	1:1.6 ft. ²

Base Sheet: (Optional) Paraglas; one or more plies adhered to the insulation with approved mopping asphalt at an application rate of 20-25 lbs./sq.

Ply Sheet: IREX 40, IREX HT, Paradiene 20, 20 HT, 20 HV or 20 EG adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq. or IREX 40, IREX HT, Paradiene 20 TG, 20 TG F, 20 HV TG, 20 HT TG or 20 EG TG applied by torch.

Membrane: Veral Aluminum or Veral Copper adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq. or by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

- 1.400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
- 2.400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -67.5 psf (See General Limitation #7)



Membrane Type: SBS/SBS Foil
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type C(7): All layers of insulation mechanically fastened to roof deck. Membrane is subsequently fully adhered to the roof insulation.
Deck: Minimum 22 ga., steel decking meeting ASTM Designation A 1008 SS Grade 80 or A653 SS Grade 80 attached to minimum 1/4" steel supports spaced 6 ft. o.c. with ITW Buildex Traxx 5 fasteners and 3/4" diameter low carbon steel flat washers outside diameter; 0.328 in. diameter center hole; 0.065 in. spaced 6" o.c. (two fasteners and washers are installed at each bearing attachment point) (at the bottom flute), and with deck side laps attached with Buildex Traxx 1 fasteners spaced at max. of 12" o.c.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
AC Foam II, Paratherm, H-Shield Minimum 2.0" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick	12, 14 or 15	1:1.33 ft. ²

Note: Top layer shall be walked into and adhered to Insulation Panels with Para-Stik roofing adhesive or Dow Chemical Insta-Stik roofing Adhesive Applied at 3/4" to 1" wide ribbons with minimum 6" o.c. spacing. Panels shall be allowed to set up then mechanically fastened using the fastener density listed above.

Primer: The SECUROCK Gypsum-Fiber Roof Board shall be primed with Siplast PA-1125 primer roller applied at a rate of 1/2-1 gallon/square.
Ply Sheet: Paradiene 20, 20 HT, 20 HV or 20 EG adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq. or Paradiene 20 TG, 20 HT TG or 20 EG TG adhered by torch.
Membrane: Paradiene 30 FR, 30 CR FR, 30 HT FR or Parafor 50 LT in approved mopping asphalt at an application rate of 20-25 lbs./sq. or 30 FR TG, 30 CR FR TG, 30 HT FR TG, Parafor 50 TG, Veral Aluminum or Veral Copper adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:
1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -120 psf (See General Limitation #7)



Membrane Type: SBS/SBS Foil
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type C(8): All layers of insulation mechanically fastened to roof deck. Membrane is subsequently fully adhered to the roof insulation.

Deck: Minimum 22 ga., steel decking meeting ASTM Designation A 1008 SS Grade 80 or A653 SS Grade 80 attached to minimum 1/4" steel supports spaced 6 ft. o.c. with ITW Buildex Traxx 5 fasteners and 3/4" diameter low carbon steel flat washers outside diameter; 0.328 in. diameter center hole; 0.065 in. spaced 6" o.c. (two fasteners and washers are installed at each bearing attachment point) (at the bottom flute), and with deck side laps attached with Buildex Traxx 1 fasteners spaced at max. of 12" o.c.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
AC Foam II, Paratherm, H-Shield Minimum 2.0" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick	7(#12) plates 18 or 12-plates 14 or 7(#12) plates 9 or 12 plates 13	1:1.33 ft. ²

Note: Top layer shall be walked into and adhered to Insulation Panels with Para-Stik roofing adhesive or Dow Chemical Insta-Stik roofing Adhesive Applied at 3/4" to 1" wide ribbons with minimum 6" o.c. spacing. Panels shall be allowed to set up then mechanically fastened using the fastener density listed above.

Primer: The SECUROCK Gypsum-Fiber Roof Board shall be primed with Siplast PA-1125 primer roller applied at a rate of 1/2-1 gallon/square.
Ply Sheet: Paradiene 20, 20 HT, 20 HV or 20 EG adhered in approved mopping asphalt at an application rate of 20-25 lbs./sq. or Paradiene 20 TG, 20 HT TG or 20 EG TG adhered by torch.

Membrane: Paradiene 30 FR, 30 CR FR, 30 HT FR or Parafor 50 LT in approved mopping asphalt at an application rate of 20-25 lbs./sq. or Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG, Parafor 50 TG, Veral Aluminum or Veral Copper adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:
1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -120 psf (See General Limitation #7)



Membrane Type: SBS/SBS Foil

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C(9): All layers of insulation mechanically fastened to roof deck. Membrane is subsequently fully adhered to the roof insulation.

Deck: Minimum 22 ga., steel decking meeting ASTM Designation A 1008 SS Grade 80 or A653 SS Grade 80 attached to minimum ¼” steel supports spaced 6 ft. o.c. with ITW Buildex Traxx 5 fasteners and ¾” diameter low carbon steel flat washers outside diameter; 0.328 in. diameter center hole; 0.065 in. spaced 6” o.c. (two fasteners and washers are installed at each bearing attachment point) (at the bottom flute), and with deck side laps attached with Buildex Traxx 1 fasteners spaced at max. of 12" o.c.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
AC Foam II, Paratherm, H-Shield Minimum 2.0” thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
SECUROCK Gypsum-Fiber Roof Board Minimum ¼” thick	21-Plates 23 or 19-Plates 14	1:1ft. ²

Note: Top layer shall be walked into and adhered to Insulation Panels with OMG OlyBond 500 Adhesive applied at ¾” to 1” wide ribbons with minimum 6” o.c. spacing. Panels shall be allowed to set up then mechanically fastened using the fastener density listed above.

Primer: The SECUROCK Gypsum-Fiber Roof Board is then primed with Siplast PA-1125 primer roller applied at a rate of 1/2-1 gallon/square.

Ply Sheet: Paradiene 20 TG, 20 HT TG or 20 EG TG adhered by torch.

Membrane: Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG, Parafor 50 TG, Veral Aluminum or Veral Copper adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

- 1.400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -150 psf (See General Limitation #7)



Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C(10): All layers of insulation mechanically fastened to roof deck. Membrane is subsequently fully adhered to the roof insulation.

Deck: Minimum 22 ga., ASTM A653 SS Grade 33 steel deck attached to minimum 1/4" steel supports spaced 6 ft. o.c. with ITW Buildex Traxx 5 fasteners and 3/4" diameter washers spaced 6" o.c. (one fastener and washer installed at each bearing attachment point), and with deck side laps attached with ITW Buildex Traxx 1 fasteners spaced at max. of 24" o.c.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft²
AC Foam II, Paratherm W, H-Shield, Paratherm H Minimum 1.5" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft²
DensDeck Prime Minimum 1/2" thick	12-plate 14	1:1 ft.²

Note: Stress plates shall be primed with ASTM-D41 asphaltic primer

Base Sheet: Paradiene 20, 20 HT, 20 EG, or 20 HV base membrane is adhered to the cover board using hot asphalt applied at a minimum rate of 20 lb/sq (0.1 kg/m²) or PA-311 LS applied with a squeegee at a rate of 1.5 gal/sq (0.61m²) or, Paradiene 20 TG, 20 HT TG, 20 TG F, or 20 EG TG, is torch adhered to the cover board.

Membrane: Paradiene 30 FR, 30 CR FR, or 30 HT FR adhered with hot asphalt at 20-25 lb/sq (0.1 kg/m²) or PA-311 LS applied with a squeegee at a rate of 1.5 gal/sq (0.61m²) or, Paradiene 30 FR TG, or 30 HT FR TG torch adhered to base sheet.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -105 psf (See General Limitation #7)



Membrane Type: SBS/SBS Foil

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(1): All layers of insulation to be loose laid on roof deck. Base sheet is mechanically attached though all layers of insulation to the roof deck. Membrane is subsequently fully adhered to the roof insulation.

Deck: Minimum 22 ga., steel decking meeting ASTM Designation A 1008 SS Grade 80 or A653 SS Grade 80 attached to minimum 1/4" steel supports spaced 6 ft. o.c. with ITW Buildex Traxx 5 fasteners and 3/4" diameter low carbon steel flat washers outside diameter; 0.328 in. diameter center hole; 0.065 in. spaced 6" o.c. (two fasteners and washers are installed at each bearing attachment point) (at the bottom flute), and with deck side laps attached with Buildex Traxx 1 fasteners spaced at max. of 12" o.c.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft²
AC Foam II, Paratherm, H-Shield Minimum 2.0" thick	N/A	N/A

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft²
SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick	N/A	N/A

Base Sheet Paradiene 20 PR is mechanically fastened through insulation layers to the deck with OMG XHD Fasteners (table 3 #16) and OMG 2-3/4" Super XHD barbed stress plates (table 3 #17) spaced 12" o.c. through the 4" lap and spaced 12" o.c. along one staggered intermediate field row in the field of the sheet. The side laps of the base membrane were torch adhered prior to fastening through the side laps.

Ply Sheet: Paradiene 20 TG, 20 HT TG or 20 EG TG adhered by torch.

Membrane: Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG, Parafor 50 TG, Veral Aluminum or Veral Copper adhered by torch.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -135 psf (See General Limitation #7)

Membrane Type: SBS/SBS Foil

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(2): Base layer of insulation to be loose laid on roof deck. Top layer of insulation to be adhered to base layer. Base sheet is mechanically attached though all layers of insulation to the roof deck. Membrane is subsequently fully adhered to the roof insulation.

Deck: Minimum 22 ga., steel decking meeting ASTM Designation A 1008 SS Grade 80 or A653 SS Grade 80 attached to minimum ¼" steel supports spaced 6 ft. o.c. with ITW Buildex Traxx 5 fasteners and ¾" diameter low carbon steel flat washers outside diameter; 0.328 in. diameter center hole; 0.065 in. spaced 6" o.c. (two fasteners and washers are installed at each bearing attachment point) (at the bottom flute), and with deck side laps attached with Buildex Traxx 1 fasteners spaced at max. of 12" o.c.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft²
AC Foam II, Paratherm, H-Shield Minimum 2.0" thick	N/A	N/A

Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft²
SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	N/A	N/A

Note: Top layer shall be walked into and adhered to Insulation Panels with Para-Stik roofing adhesive or Dow Chemical Insta-Stik roofing Adhesive Applied at ¾" to 1" wide ribbons with minimum 6" o.c. spacing. Panels shall be allowed to set up then Base sheet shall be mechanically fastened as described below.

Base Sheet Paradiene 20 PR is mechanically fastened through insulation layers to the deck with OMG XHD Fasteners (table 3 #16) and OMG 2-3/4" Super XHD barbed stress plates (table 3 #17) spaced 12" o.c. through the 4" lap and spaced 12" o.c. along three staggered intermediate field rows in the field of the sheet. The side laps of the base membrane were torch adhered prior to fastening through the side laps.

Ply Sheet: Paradiene 20 TG, 20 HT TG or 20 EG TG adhered by torch.

Membrane: Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG, Parafor 50 TG, Veral Aluminum or Veral Copper adhered by torch.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

- 1.400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
- 2.400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -150 psf (See General Limitation #7)



STEEL DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 137, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9N-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA No.: 12-1220.05
Expiration Date: 04/14/18
Approval Date: 04/11/13
Page 22 of 22